

Application Number 10/509,777
Amendment dated November 22, 2005
Response to Office Action mailed August 22, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A high phase order rotating induction machine, wherein the number of phases is greater than three, comprising ~~more than three different phases of electrical~~ current fed to stator having windings for each of said phases, wherein said stator windings are distributed~~arranged with a winding distribution~~ according to ~~[[the]]~~a sinc function.

Claim 2 (currently amended): The rotating induction machine of claim 1 wherein said ~~stator~~ windings are distributed according to~~arranged with a winding distribution~~ approximation[[g]] of a[[the]] sinc function.

Claim 3 (currently amended): The rotating induction machine of claim 2 wherein said sinc function has[[ving]] a cutoff frequency at a[[the]] fourth or a[[the]] fifth harmonic.

Claim 4 (currently amended): The rotating induction machine of claim 2 wherein ~~said more than three different~~ the number of phases comprisingis five phases and wherein said sinc function ~~comprising~~has a cutoff frequency ~~to substantially filter spatial harmonics above the~~at a third spatial harmonic.

Claim 5 (currently amended): The rotating induction machine of claim 4 further comprising a[[n]] high phase inverter drive, wherein the number of phases is the same as the number of phases of said rotating induction machine, for supplying said more than three phases of electrically ~~current~~connected to said windings, wherein said stator windings ~~being~~are connected to said inverter drive with a mesh connection.

Claim 6 (currently amended): The rotating induction machine of claim 5 wherein said inverter drive is capable of selectively injecting third harmonic into ~~the electrical current~~a drive waveform, and wherein said mesh connection ~~arranged with~~has a span of $L=2$.

Claim 7 (currently amended): A high phase order rotating induction machine, wherein the number of phases is greater than three, comprising ~~more than three different phases of electrical~~

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~~current fed to stator~~ having windings for each of said phases, wherein said ~~stator windings are distributed~~~~arranged with a winding distribution~~ according to ~~[[the]]~~a cyclic sinc function.

Claim 8 (currently amended): The rotating induction machine of claim 7 wherein said ~~stator windings are distributed according to~~~~arranged with a winding distribution~~ approximation~~[[g]]~~ of ~~a~~[[the]] cyclic sinc function.

Claim 9 (currently amended): The rotating induction machine of claim 8 wherein said cyclic function has~~[[ving]]~~ a cutoff frequency to pass low-order harmonics and to substantially filter out all higher harmonics.

Claim 10 (currently amended): The rotating induction machine of claim 8 wherein said windings are distributed~~[[ion]] approximating the cyclic sine function comprising groups of windings comprising to give~~ a fixed number of turns being positioned in the center of each lobe of the cyclic sinc function.

Claim 11 (currently amended): The rotating induction machine of claim 10 wherein said cyclic function has~~[[ving]]~~ a cutoff frequency to pass low order harmonics and to substantially filter out high-order harmonics.

Claim 12 (original): The rotating induction machine of claim 8 ~~wherein said winding distribution approximating the cyclic sine function, additionally comprising groups of windings with one of two predetermined numbers of turns being arranged in slots of the stator to substantially approximate the cyclic sine function~~positioned in a single lobe on either side of said central lobe.

Claims 13 (cancelled).

Claim 14 (currently amended): The rotating induction machine of claim 8 wherein said cyclic sinc function has~~[[ving]]~~ a cutoff frequency at the fourth or the fifth harmonic.

Claim 15 (currently amended): The rotating induction machine of claim 8 wherein ~~said more than three different~~ the number of phases comprising ~~is five phases and~~ wherein said sinc

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function ~~comprising~~has a cutoff frequency to ~~substantially filter spatial harmonics above the~~at a third spatial harmonic.

Claim 16 (currently amended): The rotating induction machine of claim 15 further comprising a ~~[[n]]~~high phase inverter drive, wherein the number of phases is the same as the number of phases of said rotating induction machine, for supplying said more than three phases of electrically current connected to said windings, wherein said stator windings beingare connected to said inverter drive with a mesh connection.

Claim 17 (currently amended): The rotating induction machine of claim 16 wherein ~~said inverter drive capable of selectively injecting third harmonic into the electrical current, and wherein said mesh connection arranged with~~has a span of $L=2$.

Claim 18 (currently amended): The rotating induction machine of claim 8 further comprising a ~~[[n]]~~high phase inverter drive, wherein the number of phases is the same as the number of phases of said rotating induction machine, for supplying said more than three phases of electrically current connected to said windings, wherein said stator windings beingare connected to said inverter drive with a mesh connection and wherein said inverter drive is capable of selectively injecting low order harmonics into ~~the electrical current~~a drive waveform.

Claim 19 (currently amended): The rotating induction machine of claim 18 wherein said cyclic sinc function ~~has~~[[ving]] a cutoff frequency to pass said low order harmonics only.

Claim 20 (original): The rotating induction machine of claim 8 wherein said windings are distributed ~~[[ion]] approximating the cyclic sine function, comprising windings positioned for each phase to approximate only the broad central regions of the cyclic sinc function,[[whereby]] ignoring the side lobes of the cyclic sine function.~~

Claim 21 (original): The rotating induction machine of claim 20 wherein within said broad central region said windings are distributed~~positioned for each phase only according to the broad central regions of the cyclic sine function comprising windings positioned to approximate a sine function within the broad central regions of the cyclic sine function.~~

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Claim 22 (original): The rotating induction machine of claim 20 wherein within said broad central region said windings are distributed~~positioned for each phase only according to the broad central regions of the cyclic sine function comprising windings positioned~~ to approximate the cyclic sinc function with a gradient of increasing number of turns up to a maximum value ~~in the broad central regions of the cyclic sine function.~~

Claim 23 (cancelled).